duration of hospital stay (Table). In summary, within the first 100 days after HCT, transplantation with MA MRD, NMA MRD and NMA UCB has similar costs while MA UCB HCT is more costly. These higher costs can be attributed to lengthier hospital stay due to slower engraftment and a higher incidence of graft failure. Strategies to enhance engraftment (e.g. better HLA matched units, increasing cell dose using two units) will decrease the costs of UCB transplantation. Long-term costs of UCB HCT may be lower due to the lower incidence of chronic GVHD, but this warrants further investigation.

Multivariate analysis for costs within the first 100 days following HCT

Variable	Ratio (95% CI)	P-value
Transplant type		
MA MRD	1.0	
MA UCB	1.3 (1.1-1.5)	0.05
NMA MRD	1.0 (0.9-1.2)	0.82
NMA UCB	1.0 (0.8-1.2)	0.96
Graft failure		
No	1.0	
Yes	1.8 (1.7-1.9)	<0.001
Dialysis		
No	1.0	
Yes	1.3 (1.1-1.5)	0.05
Mechanical ventilation		
No	1.0	
Yes	1.3 (1.2-1.4)	0.004
Hospital stay, tertiles		
<32 days	1.0	
32-48 days	1.0 (0.8-1.2)	0.98
>48 days	2.1 (1.9-2.3)	<0.001

Other variables considered in the model included age at HCT, Karnofsky performance score at HCT, disease risk, previous transplant, CMV status, acute GVHD, hepatic veno-occlusive disease, and total (inpatient and outpatient) medical encounters (HLA match correlated with transplant type and was not included)

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PREEMPTIVE RITUXIMAB TREATMENT MAY REDUCE THE INCIDENCE OF POST-TRANSPLANT LYMPHOPROLIFERATIVE DISORDERS (PTLD) IN PATIENTS WITH EBV REACTIVATION AFTER ALLOGENEIC STEM CELL TRANSPLANTATION

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PTLD resulting from EBV reactivation after stem cell transplantation is a potentially fatal complication observed with T-cell depleted, matched unrelated donor (MUD), and umbilical cord blood (UCB) transplants, and the use of ATG-associated conditioning. Real-time quantitative (quant) PCR for EBV DNA is a highly sensitive and specific test for EBV reactivation. Since 5/2006, we screen allogeneic transplant recipients using quant PCR for EBV DNA weekly until day 100 and monthly thereafter. If EBV DNA titer is >1000 copies, we initiate rituximab 375 mg/m^2 IV weekly for 4 weeks. Of 53 allogeneic transplants performed between 5/2006 and 8/2008, 14 patients (pts) (26%) (11 male, 3 female) had EBV reactivation. Median age was 50.5 (range 20–71) yrs. All pts with EBV reactivation had high-risk malignancies (secondary AML, AML, CML, CLL, aplastic anemia, Hodgkin's lymphoma, myelofibrosis). Graft sources were UCB (N = 8), matched-related donor (MRD) (N = 4), and MUD (N = 2). Myeloablative conditioning was used in 3 pts; 11 patients (UCB, N = 7) received reduced-intensity (RIC) or nonmyeloablative (NST) regimens. ATG was included in the conditioning regimen in all pts except for 2 MUD pts and 2 MRD pts. All pts received cyclosporine or FK 506 based GVHD prophylaxis. Median follow up is 289 (range 76–489) days. Relapse occurred in 3 pts with an overall survival of 79%. One pt died of treatment-related mortality; 2 pts died of disease relapse. Grade 2–4 acute GVHD was seen in 7; 2/11 pts had extensive chronic GVHD. Median time to diagnosis of EBV positivity was T+60.5 (range 21–302) with a median EBV titer of 1720 (range 656–5700). Twelve pts received rituximab. One pt had treatment initiated with an EBV titer < 1000. This pt had a positive qualitative EBV PCR test one week prior to the positive quant EBV PCR (656). All but one pt became EBV negative by the end of the course of rituximab. This pt went on to receive 6 weekly treatments of rituximab and was started on valganciclovir. One pt did not receive rituximab for an EBV titer of 886; 6 weeks later had an EBV titer >1,000,000 and died of multi-organ failure. Majority of pts received RIC or NST regimens or an UCB transplant regimen using ATG. Given the morbidity and mortality of PTLD, weekly testing for EBV DNA by quant PCR with preemptive treatment with rituximab for pts with EBV titers >1000 may be effective in preventing EBV associated PTLD.

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CHG WATERLESS BATH SYSTEM SIGNIFICANTLY REDUCED BSI IN PEDIATRIC BMT PATIENTS

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Objectives: The primary objective is to determine whether pediatric blood and marrow transplant (BMT) patients bathed daily with chlorhexidine gluconate (CHG) waterless bath system have lower incidence of *Staphylococcus epidermis* blood stream infections and total blood stream infections (BSI) compared to patients bathed with the standard CHG soap and water method. Secondary objectives are to determine the time efficiency and cost effectiveness of waterless bath system versus the standard soap and tap water bath.

Background: With continuous improvements in BMT technology and increasing survival, infection remains a leading cause of morbidity and mortality among transplant patients.

Methods: A non-equivalent two-group quasi-experimental study was conducted using historical controls (N = 25) who received soap and water bathing during their admission for BMT versus patients bathed with CHG waterless bath system (N = 25). A time and motion analysis (N = 20) during the bathing procedure was conducted by an independent observer, who recorded number of minutes spent on the entire bathing procedure and the amount and type of materials/supplies used for each type bath. Data regarding infections were collected by chart review. Outcomes measured included incidence of total BSI and *Staphylococcus epidermis* BSI. Secondary outcomes included the time and cost of the two bathing systems.

Results: Independent t-tests were used to compare groups. Pediatric BMT patients bathed with CHG waterless bath intervention had significantly fewer BSI overall (x vs. y) and *Staphylococcus epidermis* BSI (x vs. y) ($p = 0.017$, 0.009 respectively). The cost of materials per bath was nearly identical, ($14.40 per soap and tap water bath versus $14.23 per CHG waterless bath). However, staff direct care time was nearly three times longer for tap water bath (18.3 minutes per bath) than the waterless bath (6.6 minutes per bath). The time difference was statistically significant ($t = 4.537$, $p < 0.001$), which translates to lower cost for the waterless bath method.

Conclusions: Daily bathing of patients with CHG waterless bath system significantly decreased BSI, especially with *Staphylococcus epidermis*. It is an easy, time-efficient, cost-effective intervention to decrease these infections in pediatric patients undergoing a BMT.

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COMPARISION AND COST EFFECTIVENESS OF BRONCHOSCOPIC AND NON-BRONCHOSCOPIC BRONCHOALVEOLAR LAVAGE IN HEMATOLOGICAL MALIGNANCIES AND STEM CELL RECIPIENTS

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Introduction: Pulmonary infiltrates are common in critically ill patients with hematological malignancies and also in post stem cell transplant (SCT) recipients. Radiological changes of parenchymal infiltrates are non-specific and can be caused by infection, inflammation, fluid, and parenchymal bleeding. Bronchoalveolar lavage (BAL) is commonly performed for microbiological sampling.